THE DETERMINATION OF CHEMICAL OXYGEN DEMAND BY SEMI-AUTOMATED COLORIMETRY
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Facility Name:_____VELAP ID_____

Assessor Name:_____Analyst Name:_____Inspection Date_____

Relevant Aspect of Standards	Method Reference	Y	N	N/A	Comments
Records Examined: SOP Number/ Revision/ Date _____ Analyst:_____ Sample ID: _____ Date of Sample Preparation:_____ Date of Analysis:_____					
Was the reagent water used ASTM Type II or equivalent?	7.1				
Were samples collected in glass or plastic bottles?	8.1				
Were samples preserved with H_2SO_4 to a pH <2 and cooled to 4°C at the time of collection?	8.2				
Were preserved samples maintained 4°C and held for no longer than 28 days prior to analysis?	8.3				
Initial Demonstration of Performance					
Did the laboratory perform an Initial Demonstration of Capability prior to analyzing samples?	9.1				
Did the laboratory determine a Linear Calibration Range on its spectrometer when beginning this method?	9.2.2				
Did the laboratory verify the Linear Calibration Range every six months or whenever a significant change in instrument response was observed or expected?	9.2.2				
Did the verifications of linearity consist of a blank and three standards and measure the data points to be within ±10%?	9.2.2 10.1				
When beginning this method and every quarter did the laboratory analyze QCS samples to be within ±10% of stated values?	9.2.3				
Were QCS samples analyzed before determining MDLs?	9.2.3 10.7				
Were MDLs determined when laboratory began method, when new operator began work, when there was a significant change in instrument response, and every six months?	9.2.4				
Notes/Comments:					

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Were MDLs determined from samples consisting of seven replicates of reagent water fortified to two or three times the estimated instrument detection limit?	9.2.4				
Were standard deviations and means calculated from MDL replicates?	9.2.4				
Assessing Laboratory Performance					
Was an LRBs analyzed with every batch of samples?	9.3.1				
Were LRBs analyzed to be below MDL values?	9.3.1				
Were LFBs analyzed with every batch of samples to have recoveries of 90-110%?	9.3.2				
When LFB data were compiled into 3 standard deviation control limits, were these limits tighter than 90-110%?	9.3.3				
Were IPC samples fortified to approximately mid-range in the calibration analyzed first and every ten samples to be within ±10% of the calibration?	9.3.4				
Assessing Analyte Recovery					
Did a minimum of 10% of routine samples have duplicate samples fortified to be LFMs	9.4.1				
Were LFM recoveries between 90-110% unless failures were matrix related?	9.4.2				
Procedure					
Were all tubes and screw caps washed with 20% H_2SO_4 prior to first use?	11.1				
Were tubes ignited in a muffle furnace at 500^{o}C for one hour prior to first use?	11.1				
Were tubes digested for two hours at 150^{o}C?	11.6				
Were digested tubes mixed, cooled, and settled prior to analysis?	11.7				
Notes/Comments:					

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Data Analysis and Calculations					
Were calibration curves formed by plotting instrument response against standard concentration?	12.1				
Were only values that fell between the lowest and highest calibration curve reported?	12.2				
Were samples that fell above the calibration range diluted and reanalyzed?	12.2				
Notes/Comments:					